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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/713,043	11/17/2003	Wei Ding	AP818CIP	1154

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EXAMINER	
CHENG, JACQUELINE	

ART UNIT	PAPER NUMBER
3768	

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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/713,043	DING, WEI	
	Examiner	Art Unit	
	JACQUELINE CHENG	3768	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *28 April 2008*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1,2,4-14 and 16-30* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1, 2, 4-14, 16-30* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Response to Arguments

1. Applicant's arguments filed April 28, 2008 have been fully considered but they are not persuasive. The examiner respectfully disagrees with the applicants arguments that Ishikawa (US 6,398,710 B1) does not provide a radiation dosimetry report. Although Iskikawa is used initially to confirm that the radiation beam is properly aligned and oriented Iskikawa is also used to detect a dosage of radiation received by a tumor during radiation treatment (col. 3 line 28-32). The radiation sensors are constantly being polled displaying information of the precise radiation dose received at each particular spot during the preceding radiation session (or segment of the radiation session). The information collected during each of the pollings is used to determine if the dosage being received is appropriate. Depending upon if the correct dosage is being received during each preceding radiation session (segment of the radiation segment) Iskikawa then will reorient and align the radiation beams as necessary to try to give the tumor the target radiation desired.

2. The examiner also respectfully disagrees with the applicants arguments that Ishikawa does not suggest a method of displaying dosimetry information (any display of dosimetry information can be called a "dosimetry report") as Ishikawa discloses both presenting the dosimetry data collected (col. 17 line 52-53) as well as the fluoroscopic image with the radiation sensors superimposed at their correct locations (col. 5 line 30-31). Although this data is not disclosed as being visually linked it would be obvious to do so as to do so is well known in the art as disclosed by Taylor (discussed below). Although Taylor does not disclose radiation sensors

and dosimetry data it would be obvious to use display other information such as radiation sensors and the dosimetry data in the same manner in which Taylor displays information of visually linking data and a graphic associated with the data.

Claim Rejections - 35 USC § 101

3. 35 U.S.C. 101 reads as follows:

> Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

4. Claims 1-30 are rejected under 35 U.S.C. 101 because the claimed invention is directed to non-statutory subject matter. A mere arrangement of printed matter, though seemingly a "manufacture," is rejected as not being within the statutory classes. See In re Miller, 418 F.2d 1392, 164 USPQ 46 (CCPA 1969); Ex parte Gwinn, 112 USPQ 439 (Bd. App. 1955); and In re Jones, 373 F.2d 1007, 153 USPQ 77 (CCPA 1967). In the present application, the claimed printed matter set forth a mere arrangement of printed matter that is not functionally related to the substrate and, therefore, does not distinguish the invention from prior art in terms of patentability. Although printed matter must be considered, in this situation, it is not entitled patentable weight. The printed matter claimed herein conveys no meaningful information in regard to the substrate they are arranged on and do not require any size relationship of the substrate, and do not require any particular substrate to effectively convey the information. Accordingly, there being no functional relationship of the printed material to the substrate, as noted above, there is no reason to give patentable weight to the content of the printed matter which, by itself, is non-statutory subject matter.

Claim Rejections - 35 USC § 103

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

6. Claim 1, 3, 6-13 and 18-26 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ishikawa (US 6,398,710 B1) in view of Taylor (US 6530875 B1).

7. **Claims 1, 3, 6, 9, 13, 18 and 21:** Ishikawa discloses a radiation dosimetry system for detecting a dosage of radiation received by a tumor during radiation treatment. The system uses miniature implanted transponder balls as radiation sensors. Each radiation sensors has an individual unique identifier that allows its location to be identified and superimposed on a display as a plurality of graphic artifacts on a representation of an image (such as a fluoroscopic map) of the irradiated body part (col. 5 line 23-31, fig. 2). The unique identifiers also allow the radiation dosage level for each of the transponders to be continuously queried for the radiation level each transponder is experiencing during the immediate previous irradiation interval. This information is then shown on a display (abstract, col. 5 line 42-47). Ishikawa does not explicitly disclose how this information about each of the radiation dosage the sensors are reading is displayed, however it would be obvious to one skilled in the art at the time of the invention to use any well known method such as displaying information such as a listing of the transponder identifiers with the dosage level. Ishikawa also does not disclose visually linking each of the radiation dosages to the plurality of graphic artifacts however it would be obvious and common sense to link the displayed listing of dosages with the displayed superimposed radiation sensors

to know what areas are receiving what dosage. It would not be helpful to have a listing of dosages and not know where the dosage was coming from as part of the purpose of Ishikawa is to make sure the areas which need higher dosage (such as in the tumor, fig. 2 element 236) are getting the higher dosage and the areas that should not be getting a high dosage (such as the tissue surrounding the tumor, fig. 2 element 238) are not receiving as much radiation. Furthermore it is well known to display a listing of information and visually link them to a graphic such as seen in Taylor. Taylor discloses displaying information by using an identifier to represent an artifact and listing data associated with the identifier (fig. 7a, col. 12 line 65-col. 13 line 6).

8. Furthermore Ishikawa discloses the claimed invention except for the specific arrangement and/or content of indicia (printed matter) set forth in the claim(s). It would have been obvious to one having ordinary skill in the art at the time the invention was made rearrange the dosimetry data and the radiation sensors superimposed on an image in the manner claimed since it would only depend on the intended use of the assembly and the desired information to be displayed. Further, it has been held that when the claimed printed matter is not functionally related to the substrate it will not distinguish the invention from the prior art in terms of patentability. *In re Gulack,* 217 USPQ 401, (CAFC 1983). The fact that the content of the printed matter placed on the substrate may render the device more convenient by providing an individual with a specific type of report does not alter the functional relationship. Mere support by the substrate for the printed matter is not the kind of functional relationship necessary for patentability. Thus, there is no novel and unobvious functional relationship between the printed matter and the substrate which is required for patentability.

9. **Claims 8, 10, 20, 22, and 26-30:** The limitations of how the data is displayed along with their identifiers are design choices and can be displayed in any way known in the art. To print out information and having an identifier separate from the icon artifact and with a lead line connecting the two are all very well known display methods known in the art as well as using a lead line to link an icon artifact with the information directly (see paragraph 0064 of US 2003/0139700 A1 to Elliott for printing out a report, and see the drawings in Elliott for a lead line connecting an identifier).

10. **Claims 7, 11, 12, 19, and 23-26:** Ishikawa discloses that the graphic artifacts are superimposed on a fluoroscopic map of the area (col. 5 line 30-31). It would be obvious to one skilled in the art at the time of the invention to further the utility of Ishikawa to superimpose the artifacts on any known imaging modality that is known in the art at the time of the invention such as computer generated images and photos of the patient body.

11. **Claims 2, 4 and 14-16** are rejected under U.S.C. 35 103(a) as being unpatentable over Ishikawa in view of Taylor further in view of Hughes (US 5,621,779). Ishikawa and Taylor disclose most of what is claimed except displaying information about the target dosage amount versus an actual dosage amount. All radiation system have a target dosage which one wants to apply. It would be obvious to display this information next to the actual dosage information to further the utility of Ishikawa for the purpose of being able to determine if the right amount of radiation is being reached, or if it is being surpassed such as disclosed by Hughes. Hughes discloses displaying a target dose volume as well as displaying the actual dosage (fig. 3a-3c, 41-4c).

12. **Claims 5 and 17** are rejected under U.S.C. 35 103(a) as being unpatentable over Ishikawa in view of Taylor in view of Hughes further in view of Elliott (US Publication No 2003/0139700 A1). It would be obvious add to the display a listing of a deviation of a measured radiation dosage from a target dose as disclosed by Elliott in order to further the utility of Ishikawa to help the operator to easily see how far and how much longer the radiation should be applied in order to reach the target goal (paragraphs 0057-0059 of Elliott, col. 5 line 45-51 of Ishikawa).

Conclusion

13. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. US 6,402,689 B1.

14. Any inquiry concerning this communication or earlier communications from the examiner should be directed to JACQUELINE CHENG whose telephone number is (571)272-5596. The examiner can normally be reached on M-F 10:00-6:30.

15. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Long Le can be reached on 571-272-0823. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

16. Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

JC

/Long V Le/
Supervisory Patent Examiner, Art Unit 3768